

## Remarks

This Response is considered fully responsive to the Office Action mailed November 7, 2007. Claims 1-21 were pending in the application. Claims 1-21 stand rejected. In this Response, no claims have been amended, cancelled, or added. Claims 1-21 are now pending in the application. Reexamination and reconsideration are requested.

## Rejections Under 35 U.S.C. § 103(a)

Claims 1-17 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,560,748 to Li ("Li") in view of U.S. Patent Application Publication No. 2002/0108090 by Ariel, et al. ("Ariel") and further in view of U.S. Patent Application Publication No. 2002/0016944 by Yoshida, et al. ("Yoshida"). All rejections are respectfully traversed.

Independent claim 1 recites "partitioning the input data sequence into a plurality of sections." Independent claim 10 recites that the buffer receives the input data sequence and "partitions the input data sequence into a plurality of sections." The Office acknowledges that neither Li nor Ariel teach or suggest partitioning the input data into a plurality of sections and relies upon Yoshida to cure the deficiencies of Li and Ariel. Applicants respectfully submit, however, that the modification proposed by the Office in view of Yoshida would render Li unsatisfactory for its intended purpose and would change the principle of operation of the Li reference. *See* MPEP 2143.01(V, VI).

MPEP 2143.01(V) states "[i]f [the] proposed modification would render the prior art invention being modified unsatisfactory for its intended purposes, then there is no suggestion or motivation to make the proposed modification. *In re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984). Li explicitly teaches that the input data sequence is not partitioned. Referring to Figs. 6 and 7 of Li, the input or source data *u* is provided, in its entirety, to each of the interleavers 103-1, 103-2, 103-m, and the interleavers temporarily store the source data *u*. Each of the interleavers 103-1, 103-2, 103-m then "outputs the stored source data *u* in an order different from the input order. Thus, the source data *u* is randomized by the interleavers 103-1 through 103-m, respectively." Li at col. 5, lines 31-34. As illustrated in Figs. 6 and 7, "[t]he interleavers 103-1 through 103-m outputs different data sequence *u*<sub>1</sub> through *u*<sub>m</sub>, respectively. The data length of each of the data sequence *u*<sub>1</sub> through *u*<sub>m</sub> is the same as the length of the source data *u*, that is, 'N' bits." Li at col. 5, lines 36-40. Thus, Li explicitly teaches that the

**same source data is randomized by multiple interleavers.** Said another way, each interleaver/de-interleaver in Li **operates on the same source data** during the encoding/decoding process. Applicants respectfully submit that modifying Li to partition a data source and then randomize each partition once would not result in the same level of randomization or encoding in process taught by Li. Thus, the modification of Li by Yoshida renders Li unfit for its intended purpose.

MPEP 2143.01(VI) states that “[i]f the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims *prima facie* obvious.” *In re Ratti*, 270 F.2d 810, 123 USPQ 349 (CCPA 1959). The encoding/decoding of Li is dependent upon the interleavers/de-interleavers operating on the same set of data. Applicants respectfully submit that achieving the same level of encoding/decoding on partitioned data, as proposed by the Office, would require a substantial reconstruction and redesign of the elements shown in Li as well as a change in the basic principle of under which Li was designed to operate.

Further, Applicants note that the Office relies upon Yoshida at p. 6, [0094], to teach partitioning. The cited portion of Yoshida states “the data sequence may be divided into a plurality of blocks, and a block having the error correction codes A and B as a pair may be transmitted by a plurality of times.” Applicants note that grammatical and/or typographic errors in this passage make it unclear. However, it is clear that Yoshida teaches that a specific block or partition may be transmitted multiple times. Yoshida does not teach or suggest that each block or partition is transmitted. Thus, modifying Li with Yoshida would still fail to provide each section of the plurality of sections to a different interleaver of a plurality of interleavers, as recited in independent claims 1 and 10.

Ariel is relied upon only to teach that different message lengths or different types of interleavers can be used to vary a particular message structure and that variable properties can be combined. Ariel also fails to teach or suggest partitioning of the input data sequence into a plurality of sections, as recited in independent claims 1 and 10. Thus, Ariel does not cure the deficiencies of Li or Yoshida discussed above.

For at least these reasons, Applicants respectfully submit that Li, Ariel, and Yoshida, whether taken alone or in combination, fail to teach or suggest all of the features of independent claims 1 and 10, and those claims depending directly or indirectly therefrom. Accordingly,

Applicants request reconsideration and withdrawal of the rejection of claims 1-17. Allowance of these claims is respectfully requested.

Claims 18-21 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Li in view of Arie. All rejections are respectfully traversed.

Independent claim 18 recites, *inter alia*, “determining a subset of interleavers, from a plurality of interleavers, to be used in generating the permuted data sequence.” Applicants respectfully submit that this feature is absent from the teachings of Li and Ariel. Further, Applicants note that the Office Action is silent regarding this feature of independent claim 18. This is not surprising, as Li teaches that the same input data is distributed to each of the interleavers, as discussed above.

Ariel is relied upon to teach that different message lengths or different types of interleavers can be used to vary a particular message structure and that variable properties can be combined. However, Ariel is silent regarding the determination of a subset of interleavers, from a plurality of interleavers, to be used in generating the permuted data sequence. Instead, Ariel at p. 1, [0009] merely teaches that interleavers having variable properties may be combined. Ariel does not provide any teaching or suggestion of selecting a combination of interleavers (a “subset”) from a plurality of interleavers.

For at least these reasons, Applicants respectfully submit that Li and Ariel, whether taken alone or in combination, fail to teach or suggest all of the features of independent claim 18 and those claims depending directly or indirectly therefrom. Accordingly, Applicants request reconsideration and withdrawal of the rejection of claims 18-21. Allowance of these claims is respectfully requested.

### **Conclusion**

Claims 1-21 are currently pending in the application. Applicant has fully responded to each and every objection and rejection in the Office action dated November 7, 2007 and believes that claims 1-21 are in a condition for allowance. Applicant therefore requests that a timely Notice of Allowance be issued in this case.

A two-month extension petition and accompanying fee are submitted herewith, via the Deposit Account No. 50-3199. The Applicant believes no other fees or petitions are due with

this filing. However, should any such fees or petitions be required, please consider this a request therefor and authorization to charge Deposit Account No. 50-3199 as necessary.

If the Examiner should require any additional information or amendment, please contact the undersigned attorney. If the Examiner believes any issues could be resolved via a telephone interview, the Examiner is invited to contact the undersigned at the telephone number listed below.

Respectfully submitted,

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